

In the claims:

1. (currently presented) A central network device for use in a power integrated local area network, the central network device comprising:
a primary power supply;
an electrochemical power source in the central networking device;
discovery logic for discovering member network devices that are capable of accepting power over a combined power/data link and for determining a threshold power level for supporting discovered member devices that are capable of receiving power from combined power/data links; and
a network interface configured to communicate with a plurality of discovered member network devices via a plurality of combined power/data links ~~link, the each~~ combined power/data link including at least one wire configured to deliver both power ~~from energy stored by the alternating electrochemical power source~~ and data ~~from the central network device to at least one selected member network device~~ ~~the at least one selected member network device being capable of accepting power over the power integrated local area network;~~
wherein the electrochemical power source is configured to assist the primary power supply to provide back-up power to the at least one selected the discovered member network devices over the plurality of combined power/data links ~~device in the event~~ when the primary power supply is able to deliver only a portion of the threshold power level to the plurality of discovered member network devices ~~of an interruption of delivery of primary power to the central network device.~~
2. (original) A central network device according to claim 1 wherein the power integrated local area network is configured to execute the Ethernet protocol.
3. (original) A central network device according to claim 1, further comprising networking logic chosen from the group consisting of a switch, a hub, a router, and a multiplexer.
4. (original) A central network device according to claim 1, wherein the power integrated local area network is configured to operate according to a Power Ethernet Standard.

5. (original) A central network device according to claim 4, the central network device being configured to deliver power and data through an MDI-X compliant port.
6. (original) A central network device according to claim 1, further comprising a housing shared by the electrochemical power source and the network interface.
7. (original) A central network device according to claim 1, further comprising power rectification circuitry.
8. (original) A central network device according to claim 7, further comprising an AC to DC converter.
9. (original) A central network device according to claim 7, further comprising a DC to DC converter.
10. (original) A central network device according to claim 1, wherein the electrochemical power source comprises a rechargeable battery.
11. (currently amended) A central network device according to claim 10, wherein the primary power supply is an Alternating Current power supply and the rechargeable battery is configured to be charged by an AC to DC converter coupled to the primary power supply.
12. (original) A central network device according to claim 10, wherein the rechargeable battery is configured to provide power to a DC to DC converter, the DC to DC converter being configured to power the at least one selected member network device.
13. (cancelled)

14. (currently amended) A central network device according to claim 1, wherein the plurality of discovered member network devices includes ~~comprises~~ a network appliance.

15. (previously presented) A central network device according to claim 14, wherein the network appliance comprises:

a peripheral device configured to transmit data to the power integrated local area network;

a communication engine operably coupled with the peripheral device, the communication engine configured to control data transmission via the power integrated local area network, wherein the power integrated local area network includes links comprising wires, and wherein each wire simultaneously delivers both power and data; and

an appliance network interface operably coupled with the communication engine, the appliance network interface being configured to transmit data to and to receive data from the power integrated local area network via the combined power/data link, data transfer between the peripheral device and the power integrated local area network being forwarded via the appliance network interface.

16. (currently amended) A power integrated local area network, the network comprising:

a plurality of member network devices; and

a central network device configured to:

discover which of the plurality of member network devices are capable of receiving power on combined power/data links;

determine a threshold power level for powering a plurality of discovered member devices capable of receiving power on combined power/data links; and

communicate with ~~a~~ the plurality of discovered member network devices via a plurality of combined power/data links, and to deliver both power, ~~from energy stored in an electrochemical power source in the central network device~~ and data ~~from the central network device~~, to the plurality of discovered ~~at least one selected~~ member network devices ~~device that is capable of accepting data and power from the central network~~

~~device via a combined power/data link coupled to the at least one selected member network device;~~

wherein the electrochemical power source is configured to assist a primary power supply that powers the plurality of discovered member network devices via combined power/data links when the primary power supply is able to provide only a portion of the threshold power level to the plurality of discovered member network devices ~~provide back up power to the at least one selected member network device in the event of an interruption of delivery of primary power to the central network device.~~

17. (currently amended) A central network device for use in a power integrated local area network, the central network device comprising:

discovery logic, for identifying a plurality of discovered member network devices capable of communicating over combined power/data links, including logic for determining a threshold power level for communicating with the plurality of discovered member network device;

networking logic, configured to communicate with ~~[[a]]~~ the plurality of discovered member network devices via a corresponding plurality of combined power/data links, the combined power/data links comprising at least one wire for simultaneously providing both power and data to the plurality of member network devices;

a primary power supply for providing power to the plurality of combined power/data links; and

electrochemical power source means for providing power to ~~at least one selected member network device via a combined power/data link associated with the at least one selected member, the selected member network device being capable of accepting power over the combined power/data link in the power integrated local area network;~~

wherein the electrochemical power source is configured to assist the primary power supply when the primary power supply is able to provide only a portion of the threshold power level to the plurality of discovered member network devices ~~provide back up power to the at least one selected member network device in the event of an interruption of delivery of primary power to the central network device.~~

18. (original) A central network device according to claim 17, wherein the power integrated local area network is configured to execute the Ethernet protocol.

19. (original) A central network device according to claim 17, wherein the networking logic is chosen from the group consisting of a switch, a hub, a router, and a multiplexer.

20. (original) A central network device according to claim 17, wherein the power integrated local area network is configured to operate according to a Power Ethernet Standard.

21. (original) A central network device according to claim 20, the central network device being configured to deliver power and data through an MDI-X compliant port.

22. (original) A central network device according to claim 17, further comprising a housing shared by the electrochemical power source means and the networking logic.

23. (original) A central network device according to claim 17, further comprising power rectification circuitry.

24. (original) A central network device according to claim 13, further comprising an AC to DC converter.

25. (original) A central network device according to claim 23, further comprising a DC to DC converter.

26. (original) A central network device according to claim 17, wherein the electrochemical power source means comprises a rechargeable battery.

27. (currently amended) A central network device according to claim 26, wherein the rechargeable battery is configured to be charged by an AC to DC converter coupled to the primary power supply.

28. (original) A central network device according to claim 26, wherein the rechargeable battery is configured to provide power to a DC to DC converter, the DC to DC converter being configured to power the at least one selected member network device.

29. (cancelled)

30. (original) A central network device according to claim 17, wherein the plurality of member network devices comprises a network appliance.

31. (original) A central network device according to claim 30, wherein the network appliance comprises:

- a peripheral device configured to transmit data to the power integrated local area network;
- a communication engine operably coupled with the peripheral device, the communication engine configured to control data transmission via the power integrated local area network; and
- an appliance network interface operably coupled with the communication engine, the appliance network interface being configured to transmit data to and to receive data from the power integrated local area network, data transfer between the peripheral device and the power integrated local area network being forwarded via the appliance network interface.

32. (currently amended) A method for powering a local area network using power from a central network device, the method comprising:

- ~~selecting~~ discovering at least one member network device capable of accepting power over the local area network on a combined power/data link in the local area network, the combined power/data link including at least one wire for simultaneously providing both power and data to the at least one member network device; and

- providing ~~backup~~ assist power, from energy stored by an electrochemical power source in the central network device, to the at least one selected member network device via the combined power/data link in the event that a primary power supply is able to provide only a portion of

power required by the at least one member network device ~~of an interruption of delivery of primary power to the central network device.~~

33. (original) A method according to claim 32, wherein the method comprises:
executing the Ethernet protocol on the local area network.

34. (original) A method according to claim 32, wherein the method comprises:
housing the electrochemical power source in a common enclosure with networking logic
chosen from the group consisting of a switch, a hub, a router, and a multiplexer.

35. (original) A method according to claim 32, wherein the method comprises:
operating the local area network according to a Power Ethernet Standard.

36. (original) A method according to claim 35, wherein the method comprises:
delivering power and data through an MDI-X compliant port.

37. (original) A method according to claim 32, wherein the method comprises:
housing rectification circuitry in a common enclosure with the electrochemical power
source.

38. (original) A method according to claim 37, wherein the method comprises:
housing an AC to DC converter in the common enclosure.

39. (original) A method according to claim 37, wherein the method comprises:
housing a DC to DC converter in the common enclosure.

40. (original) A method according to claim 32, wherein the method comprises:
housing a rechargeable battery in a common enclosure with networking logic.

41. (original) A method according to claim 40, wherein the method comprises:

charging the rechargeable battery with an AC to DC converter.

42. (original) A method according to claim 40, wherein the method comprises:

delivering power from the rechargeable battery to a DC to DC converter; and

delivering power from the DC to DC converter to the at least one selected member network devices.

43. (cancelled)

44. (original) A method according to claim 32, wherein the method comprises:

delivering power from the electrochemical power source to a network appliance.

45. (previously presented) A method according to claim 44, wherein the method comprises delivering power to a network appliance that comprises:

a peripheral device configured to transmit data to the local area network;

a communication engine operably coupled with the peripheral device, the communication engine configured to control data transmission via the local area network; and

an appliance network interface operably coupled with the communication engine, the appliance network interface being configured to transmit data to and to receive data from the local area network, data transfer between the peripheral device and the local area network being forwarded via the appliance network interface via combined power data links, each of the combined power/data links including at least one wire for simultaneously delivering both power and data to the plurality of member network devices.

46. (currently amended) A central network device for use in a power integrated local area network, the central network device comprising:

a housing;

networking logic, enclosed by the housing, configured to:

discover a plurality of member network devices capable of receiving power over combined power/data links;

determine a threshold power level required to power the plurality of member network devices capable of receiving power of combined power/data links; and

communicate with a plurality of member network devices via a plurality of combined power/data links, each of the combined power/data links including at least one wire for simultaneously delivering both power and data to the plurality of member network devices;

an electrochemical power source, sharing the housing with the networking logic, for storing energy to provide power for the plurality of member network devices to assist a primary power supply when the primary power supply is able to provide only a portion of the threshold power level ~~via the plurality of combined power/data links in the event of an interruption of delivery of primary power to the central network device~~; and rectification circuitry, sharing the housing with the networking logic and the electrochemical power source, wherein the power integrated local area network is configured to execute the Ethernet protocol.

47. (currently amended) A method for powering a local area network using power from a central network device, the method comprising:

housing an electrochemical power source in a common enclosure with networking logic configured to communicate with a plurality of member network devices via a plurality of combined power/data links, each of the combined power/data links including at least one wire for simultaneously delivering both power and data to the plurality of member network devices ;

rectifying primary power that is delivered to the central network device, to charge the electrochemical power source;

delivering power stored by the electrochemical power source to at least one member device of the plurality of member network devices via at least one of the combined power/data links of the plurality of power/data links to assist the primary power when the primary power is able to provide only a portion of a threshold power for the combined power/data links; and

executing the Ethernet protocol on the local area network.